REMARKS

[001]   The Final Office Action cites the following art: U.S. Patent Number 6,397,207 to Bleizeffer et al (hereinafter Bleizeffer), U.S. Published Patent Application Number 2004/0003004 to Chaudhuri et al (hereinafter Chaudhuri), and U.S. Patent Number 5,960,428 to Lindsay et al (hereinafter Lindsay).

[002]   Claims 1-19 are pending. Claims 1, 8, and 14 are independent claims. Claims 1-5, 8-11, and 14-17 remain rejected under 35 USC §103(a) as unpatentable in view of Bleizeffer in combination with the Chaudhuri. Claims 6, 7, 12, 13, 18, and 19 are rejected under 35 USC §103(a) as unpatentable in view of Bleizeffer in combination with Chaudhuri and Lindsay.

[003]   Applicants make no amendments. No claims have been canceled. No new claims have been added. No new subject matter has been added. Applicants request reconsideration such that the expense and delay of the appeal process can be avoided.

RESPONSE TO ARGUMENTS

[004]   The Examiner's responses to Applicants arguments have been reviewed and found to overlook relevant facts present in the current application. Applicants file this request for reconsideration in an effort to avoid the delay and expense of an appeal.

[005]   Applicants request reconsideration on three grounds, first that the Examiner has failed to give proper weight to each term in the claims as amended, second that Bleizeffer is nonanalogous art, and third that Claims 2, 9, and 15 clearly recite elements lacking in the art of record.

FAILURE TO PROPERLY CONSIDER EACH TERM IN THE CLAIMS

   "Selecting"

[001]   Applicants submit that the term "selecting" has been improperly construed in the Examiner's analysis, particularly in view of the Examiner's recitation of the items to consider in interpreting claim language. The Examiner provided a comprehensive list of items for consideration in interpreting claims. The list included determining if an "explicit and deliberate" definition is provided, determining if §112, 6th paragraph has been invoked, and determining whether intrinsic evidence limits the claims. See Final Office Action page 6.

[002]   The Examiner notes that "if there is no explicit and deliberate definition in the specification and Applicant has not chosen to invoke the rebuttable presumption that §112, 6th paragraph applies by using "means" plus a modifying function in their claim, then the claims are not limited by the accompanying disclosure." See Final Office Action page 7, ll. 1-4. The Examiner then explains that if the three items for consideration are absent the Examiner is to rely on dictionary definitions and the level of ordinary skill in the art to determine the broadest reasonable interpretation. The Examiner then concludes that none of the three items are present and proceeds to examine the claims of this application according to the meaning in a specialized dictionary and the interpretation one of skill in the art would impart.

[003]   Applicants submit that the Examiner conclusion is improper. Specifically, Applicants have provided an explicit and deliberate definition, Applicants are using "means" plus a modifying function in their claims, and Applicant's disclosure includes intrinsic evidence limiting the scope of the claims.

[004]   Applicants refer the Examiner to page 6, ll. 1-4 for an explicit definition of what is meant by the term "selecting" in the claims. There the concept of selecting is explained in detail in relation to Figure 2 and method step 220. One example of a definition is: "Selection involves the determination of the queries for which compression will be the most beneficial according to a predetermined compression threshold." See specification page 6, ll. 2-4.

[005]   The concept of selection is further explained in relation to Figures 3A and 3B. Consequently, the Applicants have provided both a textual definition of selection as well as a visual example to communicate the scope and intent of the term "selecting." Applicants submit that these examples provide significant evidence of an explicit and deliberate definition of the term "selecting." Applicants note that there is no requirement that the Applicant use magic keywords such as "the explicit and deliberate definition of the term selecting is…" Therefore, Applicants have provided a clear definition of the scope and interpretation that is to be afforded the term "selecting." Applicants request reconsideration of the present application in view of this evidence.

[006]   In addition, Claim 14 clearly recites a "means for selecting a sub-set of queries from the workload…" Applicants submit that this claim language indicates Applicant's intention that Claim 14 be examined according to the rules and guidelines relating to §112, 6th paragraph.

Therefore, Applicants submit that this claim element is to be interpreted based on what is disclosed in the specification for achieving the functionality claimed. The Examiner has failed to provide such an analysis and is requested to reconsider the recent rejection of pending claims.

[007] Finally, even if the Examiner disagrees that the Applicant has provided an explicit and deliberate definition of the term "selecting," Applicants submit that the intrinsic evidence of definitions of the term "selecting" (pointed to above) provide sufficient intrinsic evidence to justify the Examiner reconsidering the rejection of the pending claims.

[008] Therefore, Applicants submit that the Examiner's position is unreasonably broad because the Examiner has failed to consider the explicit definition, means plus function analysis, and intrinsic evidence with respect to the term "selecting."

[009] Applicants submit that by giving the term "selecting" the interpretation provided for in the specification, Bleizeffer fails to teach or disclose "selecting a sub-set of queries from the workload according to a threshold level, the threshold level being a function of the total estimated cost to execute all the queries of the workload." Bleizeffer is limited to selections made by a user. There is no selecting step performed in Bleizeffer by a "computer-implemented method" as recited in Claim 1. There is no selection of a sub-set of queries from a workload and certainly no teaching of a selection of a sub-set of queries based on a threshold level.

[010] The Examiner relies on sections Col. 2, ll. 25-30 and Col. 6, ll. 25-45 for teachings of selecting as that element is recited in Claim 1. The Examiner relates the threshold limitations of Claim 1 to the higher-than-average language used in Bleizeffer. Applicants submit that this is an unreasonably broad interpretation as the analysis is being done in Bleizeffer by a user and the analysis is being done in Claim 1 by a computer-implemented method.

[011] Applicants note further that the teachings of sections Col. 2, ll. 25-30 and Col. 6, ll. 25-45 can not be combined as the Examiner suggests. In Col. 2, ll. 25-30 Bleizeffer teaches what a user may do with explain data. Col. 6, ll. 25-45 teach how a user selects queries and/or parts of explain data for creation of reports. The Examiner suggests that "one of skill in the art would have been motivated to select a SQL statement with a higher-than-average statement cost" to improve the query or database. See Final Office Action page 8, ll. 15-16. However, the selecting performed in Col. 6, ll. 25-45 relates to generation of a report, not to selection of queries of "higher-than-average statement cost." The user in Bleizeffer at Col. 6, ll. 25-45 does

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not yet know which statements have "higher-than-average statement cost" until after the reports are run. Applicants submit that the Examiner has improperly interpreted the teachings of Bleizeffer.

"Workload"

[012]   Applicants further assert that the Examiner has failed to give proper weight to the term "workload." "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). *MPEP* §2143.03.

[013]   Applicants amended independent Claim 1 to recite "selecting a sub-set of queries **from the workload** according to a threshold level, the threshold level being a function of the <u>**total**</u> estimated cost to execute <u>**all**</u> the queries <u>of the **workload**</u>." (emphasis added). Claim 1 was also amended to recite "estimating a cost to execute ~~the~~ <u>**each query**</u> <u>within a plurality of</u> queries <u>of a **workload**</u>." (emphasis added). Claims 8 and 14 were similarly amended. Applicants note that adding of the term "workload" was intentional.

[014]   Unfortunately, these amendments appear to have been overlooked or given very little consideration in the Examiner's examination.   The term "workload" is a term of art.   The term is explicitly and deliberately defined by the Applicants on page 1, ll. 11-12 as "A collection of these queries, which are to be executed by the DBMS is defined as a workload." Claim 14 is one example of a claim that recites "means for" language in conjunction with the term "workload" in order to invoke a §112, 6th paragraph analysis. Applicants also refer the Examiner to the intrinsic evidence that this term is a term of art with a well accepted meaning. See for example, IDS submission number "CA" listed on the information disclosure statement in which the term "workload" is used in the title. Workload is not any query which may arbitrarily be used in a report on explain data. Instead, a workload is a collection of queries which are to be executed by a DBMS. Therefore, the Examiner's interpretation which equates "workload" with "all query statements in the report" is as unreasonably broad. See Final Office Action page 8, ll. 13-14.

[015]   Applicants submit that interpreting "workload" in view of the definitions provided in the specification further distinguishes the limitations of Claim 1 over the art of record.

BLEIZEFFER IS NONANALOGOUS ART

[016] The Bleizeffer reference is non-analogous art and thus is not a valid reference to cite for a §103 rejection. Determining that a cited reference is non-analogous requires a two-step process. *In re Deminski*, 796 F.2d 436, 441-2 (Fed. Cir. 1986); MPEP § 2141.01(a).I. The first step is to determine if the reference is within the inventor's field of endeavor. *Id*. If so, then the reference is analogous. *Id*. If the reference is not within the inventor's field of endeavor, the second step is to determine if the reference is reasonably pertinent to the particular problem with which the inventor was involved. *Id*.

[017] The first question, whether the reference is in the inventor's field of endeavor is narrow in scope. It is not sufficient that the reference and the claimed invention are both in the computer science art as demonstrated by *Wang Laboratories, Inc. v. Toshiba Corp.*, 993 F.2d 858 (Fed. Cir. 1993). The *Wang* decision is cited in detail at MPEP 2141.01(a) – ANALOGY IN THE ELECTRICAL ARTS:

> "Patent claims were directed to single in-line memory modules (SIMMs) for installation on a printed circuit motherboard for use in personal computers. Reference to a SIMM for an industrial controller was not necessarily in the same field of endeavor as the claimed subject matter merely because it related to memories. Reference was found to be in a different field of endeavor because it involved memory circuits in which modules of varying sizes may be added or replaced, whereas the claimed invention involved compact modular memories. Furthermore, since memory modules of the claims at issue were intended for personal computers and used dynamic random-access-memories, whereas reference SIMM was developed for use in large industrial machine controllers and only taught the use of static random- access-memories or read-only-memories, the finding that the reference was nonanalogous was supported by substantial evidence." MPEP 2141.01(a)

[018] Thus, a reference to a memory module was found not to be in the field of endeavor for an invention relating to SIMMs for installation on a printed circuit motherboard. The fact that the claimed inventions were for personal computers rather than industrial computers and for random access memory rather than static memory were sufficient distinctions to remove the claimed invention from the same field of endeavor as the cited reference.

[019] With respect to the present invention, the claims recite a method and system for optimizing compression of a workload. This field of endeavor is distinct from the Bleizeffer reference which relates to generating of reports from explain data and tools to assist the user in

doing so. The mere fact that Bleizeffer and the claimed invention both involve SQL queries is not sufficient to establish the same field of endeavor. This is supported by the MPEP's citation to *Wang* which teaches that two references that both relate to computer memory are not necessarily analogous simply because both references use the term "memory." MPEP 2141.02(a).

[020] The second part of the two-part test for analogous art requires that the cited reference be reasonably pertinent to the particular problem with which the inventor was involved. "A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992). To answer this question, the purpose of the reference and the claimed invention are compared.

[021] Bleizeffer explicitly states the problem faced and addressed by Bleizeffer, et al. is as follows:

> "Unfortunately, an analysis of SQL query performance is currently too time-consuming and complex for the average user. In conventional systems, the user must manually locate the relevant query explain data in a plurality of tables, i.e. the plan table, the statement table, and the catalog, which can be a tedious and time-consuming task. Moreover, each of the tables typically stores information corresponding to many different statements and objects. Consequently, the tables are often very large, making it difficult to locate the desired data. Likewise, the tables are often cryptic and hard to understand, even for database experts." Bleizeffer, Col. 2, lines 34-45.

[022] Bleizeffer addresses this problem by providing a user interface and graphical tools to assist a user in sorting, analyzing, and reporting on explain data. Bleizeffer, Abstract. In contrast, the claimed invention balances the cost of analyzing and performing compression of a SQL query workload against the overall cost of executing the queries of the workload without compression. The present invention ensures that the cost of analyzing and performing the compression does not outweigh the benefits of performing the compression. See Applicants filed Specification page 2, ll. 9-12, page 4, ll. 7-26.

[023] The problems are completely different. Sorting, analyzing, and reporting on explain data as taught in Bleizeffer does not commend to the mind of an inventor concepts

relating to compression of queries in a workload, much less concepts relating to balancing compression overhead against execution overhead for queries of a workload. Under *Wang*, the fact that the two references examined both dealt with computer memory was not sufficient to find that the references were analogous art. Similarly, Bleizeffer and the present invention both deal with SQL queries, but that does not make Bleizeffer analogous art. Thus, Bleizeffer is not analogous art and is an improper 35 U.S.C. §103(a) reference.

REJECTION OF CLAIMS 2, 9, and 15

[024] Claims 2, 9, and 15 are rejected under 35 USC §103(a) in view of Bleizeffer and Chaudhuri. Applicants traverse this rejection. Claims 2, 9, and 15 recite similar subject matter. Claim 2 recites in pertinent part "selecting from the queries in decreasing estimated cost of execution rank order such that an aggregate estimated cost of execution for the selected queries is less than or equal to the threshold." The Examiner suggests that Chaudhuri teaches this element in paragraph 35. Applicants respectfully disagree.

[025] In paragraph 35, Chaudhuri teaches use of a queue of queries prioritized based on estimated execution cost. However, Chaudhuri is silent regarding selecting queries such that an "aggregate estimated cost of execution is less than or equal to the threshold." This is because Chaudhuri does not include a threshold. Chaudhuri processes all the queries in the queue in that rank order. Applicants request that the Examiner reconsider and withdraw the rejection of Claims 2, 9, and 15 since Chaudhuri fails to teach the element selecting queries such that an "aggregate estimated cost of execution is less than or equal to the threshold."

REJECTION OF CLAIMS 1-5, 8-11 AND 14-17 UNDER 35 USC § 103(a)

[026] Claims 1-5, 8-11, and 14-17 are rejected under 35 USC §103(a) in view of Bleizeffer and Chaudhuri. Applicants traverse this rejection. Applicants submit that Claim 1 is representative of the subject matter recited in independent Claims 8 and 14. Therefore, Applicants response will focus on Claim 1 with the understanding that responses for Claims 8 and 14 would follow a similar vein. Applicants do hereby re-assert the arguments and positions presented in the response filed November 13, 2006.

REJECTION OF CLAIMS 6, 7, 12, 13, 18 AND 19 UNDER 35 USC § 103(a)

[027] Claims 6, 7, 12, 13, 18, and 19 are rejected under 35 USC §103(a) as unpatentable in view of Bleizeffer in combination with Chaudhuri and Lindsay. Applicants traverse this rejection. Applicants do hereby re-assert the arguments and positions presented in the response filed November 13, 2006.

CONCLUSION

[028] In view of the foregoing, Applicants submit that the application is in condition for allowance. In the event any questions or issues remain that can be resolved with a phone call, Applicants respectfully request that the Examiner initiate a telephone conference with the undersigned.

Respectfully submitted,

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